

Amendments to the Claims

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of the Claims

1. (Previously Amended) A television receiver for receiving a digital television signal susceptible to an interference caused by a lower adjacent analog television signal, said television receiver comprising:
means for determining the presence of said interference;
a tuner for receiving the digital signal associated with a broadcast channel selected from a plurality of channel locations in a frequency band;
a frequency conversion stage, coupled to said tuner, for converting in frequency the digital signal to an intermediate frequency (IF) signal to be output, where the center frequency of said IF signal is capable of being switched to a nominal frequency corresponding to the selected broadcast channel or to a second frequency being shifted from said nominal frequency in accordance with the presence or absence of said interference determined by said determining means;
and
a filter, coupled to said frequency conversion stage, for attenuating adjacent signals, said filter having a center frequency equal to said nominal frequency and said second frequency being in the passband of said filter wherein the lower adjacent analog signal is further attenuated by said filter upon switching of the center frequency of IF signal to said second frequency.
2. (Original) The television receiver of claim 1 further comprising:
a memory unit for storing software and information associated with each of the plurality of broadcast channels; and
a microprocessor, coupled to said memory unit and said frequency conversion stage, for executing software stored in said memory unit, searching said memory unit for a lower analog signal adjacent to the digital signal, and causing the center frequency of said IF signal to be switched to either said nominal frequency or said second frequency;

where said microprocessor, in response to the absence of a lower analog signal adjacent to the digital signal, causes the center frequency of said IF signal to be switched to said nominal frequency;

said microprocessor, in response to the presence of a lower analog signal adjacent to the digital signal, causes the center frequency of said IF signal to be switched to said second frequency.

3. (Original) The television receiver of claim 1 wherein said frequency conversion stage comprises:

a local oscillator for generating a local oscillation signal;

a phase-locked loop, coupled to said local oscillator, for controlling the frequency of said local oscillation signal;

a mixer, coupled to said local oscillator, for heterodyning the digital signal with said local oscillation signal to generate said IF signal; and

an IF filter, coupled to said mixer, for passing the lower band of said IF signal.

4. (Original) The television receiver of claim 1 wherein said second frequency is said nominal frequency shifted upward by 62.5 kHz.

5. (Previously Amended) A method of receiving a digital television signal susceptible to an interference caused by a lower adjacent analog television signal comprising the steps of:

tuning a radio frequency (RF) signal having a digital signal inband and a lower adjacent analog signal;

determining the presence or absence of said interference;

offsetting the frequency of a local oscillator (LO) signal upon determination of the presence of said interference;

heterodyning said RF signal with said LO signal to generate a modified intermediate frequency (IF) signal having a frequency offset from nominal and within the passband of a filter; and

filtering said modified IF signal with said filter to attenuate said lower adjacent analog signal.

6. (Original) The method of claim 5 wherein offsetting the frequency of said LO signal comprises shifting the frequency of said LO signal upward by 62.5 kHz.

7. (New) The receiver of claim 1 further comprising:
an AGC circuit indicative of the power of the digital television signal, wherein the
determining means determines the presence of the interference based on a
comparison of said power with the power of the lower adjacent analog signal.